

SYSTEM AND METHOD FOR LOCATING A FRACTURE IN AN EARTH FORMATION

Abstract

The invention relates to techniques for locating and determining the orientation of a fracture in an earth formation. Systems and methods for detecting a fracture in an earth formation using a propagation tool include producing electromagnetic fields using a TMD transmitter in the tool; measuring corresponding voltage signals detected with one or more TMD receivers in the tool; determining harmonics from the measured signal responses by shifting the responses (e.g. by 90 degrees) and performing an addition or subtraction using the shifted response. In some embodiments, the second harmonic is processed to determine the fracture orientation.